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'FOR YOUNG PRINCES'

SHORT NOTES

ON

Land Revenue Administration

and

some Connected Subjects

BY

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Rs. 5

Dedicated
with
profound respects and humble duties
to
His Highness
Samrajya Maharaja Dhīraj
Shri Maharaja Gulab Singhji Deva
Bahadur
Maharaja of Rewa.

FOREWORD.

THIS is the third volume of the Series which I am issuing for Young Princes. It deals with four important subjects in which the interests of the Princes and the people are very closely linked together. These subjects are

1. The Land Revenue Administration
2. „ Agriculture
3. „ Famine and
4. „ Co-operative Credit Societies.

When I was tutor to His Highness the Maharaja of Rewa I was asked to lecture to him on these subjects and I have now printed and published the lectures with his approval and sanction.

References have not been preserved and I repeat the apology rendered in the foreword of the second volume of the series.

Suggestions for improvement and criticism would be thankfully received.

I render my sincere thanks to H. Bomford Esq. I. C. S. Settlement Commissioner, Rewa State, for going through my manuscript, improving it and supplying this book with a preface. I am also thankful to other friends for making useful suggestions.

PREFACE

THIS, the third volume of Mr Kesari Singh's series "For Young Princes" is without doubt the most important I was privileged in being asked to criticize the lectures in their preliminary form and I would venture to summarize here some of the suggestions I made.

Of Co operative Credit Societies, I have had but little experience, and that little mostly unfortunate, but I see no other line on which the problem of agricultural indebtedness can be tackled. The main point to bear in mind is that progress must be slow.

So far as Famine is concerned I would impress on the "Young Prince" the necessity of making proper provision for the relief of his own subjects. Apart from the fact that he is bound in honour to do so, he will lose

tenants if his subjects have to emigrate to British India for relief:

In matters of Agriculture I do not believe that the theorist has much to teach the practical tenant, with one exception and that is an important one viz., that the tenants excuse that he cannot afford to spend more on seed and labour is invalid. The tenant has got to learn that he cannot afford to continue methods which he knows are inefficient. Demonstration farms will in the end show him that good seed and greater expenditure on labour will give a return of many times the extra cost involved.

The subject of Land Revenue comes first in the book as it should on account of its importance. I do not myself think it necessary that the Young Prince should be able to survey a village, but he should be cognisant of the actual details of the Revenue adminis-

stration of his State and be able to assure himself that every unit in the administration is doing his work efficiently.

Mr. Kesari Singh has sketched the system of administration existing in British India. In no State probably is the system so perfected and to many the expense would be prohibitive but with due supervision from above money expended in Land Revenue administration should show a good return. If the Land Revenue administration is neglected the Young Prince will find that the problems of finance dealt with in the second volume of this series become increasingly difficult.

Like its predecessor this volume should prove a useful text book and introduction to the further study of the important subjects with which it deals.

H. BOMFORD, I. C. S.

Settlement Commissioner,

Rewa State.

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SHORT NOTES
ON
**Land Revenue Administration and
some connected Subjects**

PART I.

Land Revenue Administration
INTRODUCTORY.

AN overwhelming majority of the entire population of India lives in villages and subsists upon agriculture. It is natural in the circumstances that the greatest source of income of the Government should be the Land Revenue, and the greatest object of interest agriculture and things connected with it. We take up here Land Revenue first.

(A) HISTORY.

The Land Revenue of modern India is a form of income based on the immemorial customs of the country.

Custom of the non-Aryans.

It is believed that before the immigration of the Aryans, the non-Aryans, who inhabited the country, allotted a portion of the land for their chief in each village and this land was cultivated by slaves or by some other special arrangement.

Practice of the Aryans.

But contact with the Aryans appears to have brought about a change. They asked from cultivators of the soil in their dominions a certain share of the produce of every field. The method adopted was that when the crop was ready and the grain heaped on the

thrashing floor the Revenue Officers went and claimed a certain fixed share of the total produce.

Manu's Ruling and Thereafter.

Manu lays down in his Smriti that the Raja should take one sixth of the gross produce of every field and this became the traditional share. But the population increased, wars took place and other phenomena came into existence which necessitated an increase in administrative expenditure and this caused the share to be raised by various devices. But as time went on such devices became worn out and so latterly the share was authoritatively increased and finally Manu's ruling was forgotten.

This system of payment in kind was admirably suited to primitive times. No complicated calculations were required. Whatever

the land produced, little or much, was heaped on the thrashing floor and the Revenue Officers superintended its division. But this plan failed to work when the population grew and cultivation extended. The task of collection became difficult and modifications in the methods of collection of revenue became necessary. The crops were no longer divided on the thrashing floor but an estimate was made of the standing crops. The appraisers expressed their opinion on the probable yield of a field and the Revenue Officers calculated thereon the share of the Raja. When the grain was reaped, the calculated quantity was taken away by the collectors irrespective of the actual outturn.'

This was after all a rough method and there was always room for underhand operations. When the coined money got introduced in course of time, cash payments were found

to be easier and at the same time more profitable than payment in kind, and so a roughly calculated cash payment took the place of appropriating a share of the produce by approximation. This method of realising the land revenue was at first practised side by side with payment in kind and remained in vogue throughout the greater part of India till the middle of the sixteenth century.

Akbar's Reforms.

When Akbar came to the throne he wished to acquire some definite knowledge of the financial resources of his empire and land revenue was as always the chief item. Hence it became necessary to survey the land, and to have some regular assessment, which he carried out and thereby in fact laid the foundation of what has now developed into the system known as the Land Revenue Settlement.

Cash payments were to a large extent substituted for those in kind ; cash rates were, when possible, fixed for a certain period of years ; and a more or less uniform system of accounts was established.

Development of the Farming System.

After the death of Akbar the Moghal Emperors became gradually weak and their authority waned. Mismanagement became rife and the treasuries became depleted. The collection of revenue could not be efficiently managed and so it appeared easier to find out men of wealth and influence who would undertake to pay into the Imperial Treasury an amount representing roughly the calculated total yield of a district and then reimburse themselves by collections from villages. This relieved the revenue officials of all the trouble of collection of revenue and of keeping

detailed accounts. Such persons came to be known as Revenue Farmers.

Under British Rule.

At the commencement of British rule in India, the revenue farmers were called Zamindars. The land revenue had for some generations past been levied in cash and all traces of the system of sharing or of valuing that share in money had long disappeared. The Zamindars made the villagers pay whatever they found it possible to extract from them and they paid into the treasury just as much of their total collections as they could not avoid paying.

As the several provinces came under British control their assessments were gradually reduced to order. The varying circumstances of the different tracts were carefully considered and measures of reform were at first

tentatively introduced. As time went on, they became crystallised into the existing systems of Land Revenue Administration, which will be considered under the following heads :—

1. Lands which are liable to assessment.
2. Persons who are responsible for payment.
3. The Land Records.
4. The Assessment.
5. The Term of Settlement.
6. The Collection of Land Revenue.
7. The Land Revenue Administration

LANDS WHICH ARE LIABLE TO ASSESSMENT.

General Rule.

In general theory all lands are liable to pay Land Revenue and the Government is entitled to a share in the income from every bigha of

land. But, as a matter of fact, there are practical distinctions.

Of course all agricultural land is invariably assessed to Land Revenue.

Exceptions.

But lands which are occupied by the houses and streets in villages, cities, and towns, or by railways, forests, parks, or grazing grounds, etc., are generally excepted, and if they pay land revenue at all, it is not assessed in the same way as agricultural land.

Besides these lands which are not assessed to land revenue there are others on which the payments ordinarily leviable are either remitted as in the case of Jagir or made payable to some grantee, e.g. to a learned or pious person, or endowed to a temple or a mosque. There is yet another kind of land which does not pay land revenue and it is

waste land. There are special rules to deal with it. Waste land is leased out for a number of years and if during this time the lease-holder brings a specified portion of it under cultivation the lease right is ultimately converted into an ownership right on prescribed terms. The cultivated area then becomes subject to assessment.

Recapitulation.—With the above exceptions, it may be said generally that all other land is assessed to Land Revenue.

(C)—PERSONS WHO ARE RESPONSIBLE FOR PAYMENT.

Zamindar.

It has already been said that Revenue Farming was in vogue when the English took possession of Bengal. They made certain improvements but decided to continue the Farming system and so the Zamindars of

Bengal became responsible for the payment of Land Revenue to Government. This system is called the Zamindari system and under it the Zamindar is always a middle man between the cultivator and the Government.

Zamindari.

Zamindari is of two kinds : it may be owned by a single landlord or by two or more jointly. In the former case it is called "Zamindari Khalis" and in the latter case "Zamindari Mushtarka". In Zamindari tracts one man generally becomes responsible to pay the revenue due against the whole estate. In case of "Zamindari Khalis" he is the Zamindar himself and in the case of "Zamindari Mushtarka" he is elected by the joint owners or co-sharers in the estate and is called a Lambardar. If, however, the members of Mushtarka Zamindari quarrel among themselves

and a separation is effected each of the shareholders becomes responsible for the payment of the land revenue of his share.

Rayatwari.

Madras came under British rule at very nearly the same time as Bengal and the Revenue Policy begun in Bengal was extended to Madras but it failed there and so another system was started which is called the "Rayatwari" system. In this system there is no middleman and the Government deals with the cultivator direct. The distinction between the two systems is that in the "Rayatwari" system Government never deals with a "Zamindar" or middleman, whilst in the "Zamindari" system it deals with the Zamindar and no one else.

These two systems have in due course been extensively applied and the system prevalent

in Bengal, the United Provinces, the Punjab and parts of the Central Provinces is "Zamindari" while that in Madras, Bombay, Assam and Burma is mainly "Rayatwari".

Recapitulation.—So it is clear now that if the tenure is Rayatwari the cultivator pays the Land Revenue and if it is Zamindari the proprietor pays it. If the Zamindari is Khalis the single landlord pays it. If Mushtarka, the Lambardar pays it, unless partition has taken place in which case each shareholder pays it for himself.

(D) THE LAND RECORDS.

Naksha.

The first requirement in the preparation of records is to have a Naksha of agricultural land and it is prepared as follows :—

The outer boundary marks of villages and estates are entered in the first instance and then the limits of the fields are demarcated. Then follows a field-to-field survey. A separate Naksha is usually prepared for each village. It shows every field with a number.

Khasra.

To the map is attached an index called Khasra in which is given necessary description of the fields in the Naksha. From the Khasra is prepared

Khatauni,

Which is a register of holdings. It gives the name of each holder and mentions under him all the fields wherever they be situated which are in his possession. The object of this record is to show the amount to be realised from each cultivator.

Khewat.

The register in which name of persons possessing proprietary rights are recorded is known as Khewat. It records the name of the proprietor. But there may be several parties claiming proprietary rights on the same land and besides this each party's right may differ from that of the other. It is, therefore, usual in these records to show to a greater or less extent the rights in land of all the parties.

When all these records are ready, the Government easily finds out the person who is responsible for the payment of the Land Revenue ; he is generally the person in possession of the land in question.

Dakhil Kharij.

But possession changes. Deaths occur and new men enter into possession. Moreover one man might mortgage his land and deliver possession. Another man might make a gift

of his land and deliver possession. The initial record in course of time would thus cease to represent the actual state of existing conditions unless changes like these are regularly noted. So arrangements are necessary whereby the records can be revised in such a way as to maintain them up to date. This is done by requiring the persons interested in the changes to report them under legal penalties to the authorities.

Recapitulation.—Well then the records are compiled by (a) preparing a map of the land (b) preparing a list of fields in that map (c) preparing a list of persons holding fields included in that map, and further a list of persons who claim proprietary rights and (d) revising the records so as to keep them up to date by showing all changes that occur from time to time. The Land Revenue is of course demanded from the man in possession be he the proprietor himself or his transferee.

(E) THE ASSESSMENT.

Old System.

It has already been said that originally the Land Revenue was the whole produce of a certain tract of land and then it was a share of the gross produce of each field. In course of time it came to be its cash equivalent. Then revenue farming was introduced which brought in lump sums to the treasury. The rates on which the lump assessments were based were, however, gradually lost sight of and the assessment became a matter of contract which was given to the man who would bid the highest for it. The principle of contract assessment in cash is yet maintained, but it has been greatly reformed in as far as the demand for land revenue is now based not on gross produce but on the rental value of the land called 'Net Assets' in Northern India and 'Net Produce' in Southern India.

The Settlement.

The process by which the amount of land revenue payable to the Government is determined is called the Settlement of Land Revenue and the person or the body of persons recognised as entitled to the land subject to the payment of Land Revenue is said to be settled with or to hold the settlement. The Land Revenue Settlement varies according to the person who holds the settlement as follows —

1 Settlement for single estates under one lord is called Zamindari settlement

2 Settlement for estates of proprietary bodies is called Mahalwar Settlement

3 Settlement for individual holdings is called Rayatwari Settlement.

It is now necessary to describe how calculations are made in order to find out the amount to be assessed in each case

Zamindari Settlement.

In Northern India Zamindars hold the settlement and the system prevailing there is called Zamindari Settlement, while in Southern India Rayats hold the settlement and that system is called Rayatwari Settlement. In Northern India the assessment is based on net assets, which consist of rent actually received by the Zamindar together with the calculated rental value of lands held by the Zamindar himself or allowed by him rent free, plus the income derived by the Zamindar from his Forest or waste land. The method of finding out actual rent or the true rental value of land is rather a complex matter and need not be gone into here except in very general terms.*

The area to be assessed is divided into circles in which the general circumstances of climate and physical and economic conditions are similar and the soils in each circle are then classified. The rent for each class of soil is next worked out and general rent rates are formulated for the different classes of soil in each circle and compared with the actual rents paid. Comparison brings about elimination of over estimates or under estimates in calculations and thus standard rent rates are fixed for each circle which serve as a general guide. From these rates and actual inspections are ascertained the true rental values of the land which form net assets. The Land Revenue is a certain percentage of these assets.

Rayatwari Settlement.

In Southern India where Rayatwari Settlement prevails the soils are classified and

grouped according to the sources of irrigation available and for each of the classes of the soil a grain value is adopted which represents normal gross produce which is then converted into cash by application of a commutation rate. From this sum deductions are made for the cost of production, e. g. the cost of cattle, implements, seeds, wages of labour, etc. and the balance is taken as Net Produce. The Land Revenue is a fraction of it.

In the Rayatwari settlements the features are that the survey numbers are fixed units of assessment and they are never allowed to be altered. Each holding is assessed separately and there is no joint responsibility as is found in Mahalwar Zamindari settlement. Further the holder is not bound to the holding ; and he can relinquish it at his option provided he does it at the close of the year and before the next cultivating season begins.

He can thus free himself from responsibility of payment of Land Revenue whenever he pleases but a Zamindar in Northern India cannot till the term of the settlement is over.

Recapitulation.—It is now understood what is assessment and how it is made. It is a certain part of Net Assets of each village or group of villages in Northern India, and of Net Produce of each holding in Southern India and it is arrived at by the process called the Settlement of Land Revenue.

(F). TERM OF SETTLEMENT.

The settlement has with reference to time been divided into two classes : 1 Permanent.
2. Temporary.

The Permanent Settlement.

The permanent settlement prevails in Bengal, parts of the United Provinces and Northern Madras. In these places the demand

of the Government is made fixed and unalterable for ever.

The Temporary Settlement.

The temporary settlement prevails in the rest of India. Here the demand is calculated at the end of certain periods. The usual term of a settlement is 30 years. A fairly long term is evidently necessary in order to enable profits of improvements made by settlement holders to be fully realised. In backward tracts where the agricultural conditions have not been thoroughly established shorter terms are allowed.

Re-Settlement.

At the end of the term of settlement the assessment is made over again. All the changes in the agricultural conditions that have taken place in the interval are taken into consideration and a Re-settlement is made to last again for a term of years.

SHORT NOTES ON
Enhancement.

In consequence of the long term for which settlements are usually made new assessments when they involve an increase in the amount of revenue assessed are often a hardship. Though the settlement be fair and accurate in view of altered resources it means a sudden increase in the Government demand, which implies a corresponding sudden decrease in the income of the person who pays the land revenue. Theoretically the revenue-payer has profitted largely from the enjoyment of income which he would have lost under shorter term settlement, but however well justified the demand may be, in practical life the extra burden is felt keenly. The hardship thus occasioned has been recognised and arrangements have been made to mitigate the effects of large enhancements by spreading their imposition over a term of years. This gives

time to revenue-payers to accommodate themselves to the enhanced assessments.

Recapitulation.—Settlement bears varieties both as regards the person who holds it and as regards the time for which it lasts. The table given below will indicate both varieties considered together.

Settlements are of three kinds and each kind is again divided into three classes :—

1. Landlord Settlement for single estates under one landlord
 - (a) Settlement with Zamindars. Permanent Settlement of Bengal and North Madras.
 - (b) Settlement with Zamindars. Temporary Settlement in Bengal of estates not included in the above.
 - (c) Temporary settlement with Taluqdars in Oudh.

2. Mahalwar settlement for estates of proprietary bodies or village communities.

(a) Temporary settlement of United Provinces and Oudh (excluding the Taluqdars of Oudh).

(b) Temporary settlement of Central Provinces. Malguzari Settlement.

(c) Temporary Settlement of the Punjab.

3. Raiyatwari Settlement for individual holdings or occupancies.

(a) Raiyatwari Settlement of Madras.

(b) Raiyatwari Settlement of Bombay.

(c) Raiyatwari Settlement of Burma, Assam and Coorg.

Tenancy Laws.

It would appear that it is very necessary to work carefully in order to calculate the dues of the Government against landholders be they Zamindars or Raiyats but at the same

time it is equally necessary to grant security of position to the revenuepayers so as to facilitate rendition of payments. This is done by defining the rights of all people interested in the land by means of Laws. 1

In Raiyatwari countries the mass of the holders farm the land themselves and practically there are no interests of other people. But in Zamindari tracts there is a variety of interests which have been classified under two heads :—

1. Sub-proprietor's Interest.
2. Tenant's Interest.

Sub-proprietor.

Whenever the right is sub-proprietary the relations of the sub-proprietors with tenants and with the over-proprietor are strictly defined by legal enactments and so they are quite safe in their position and at the same

time debarred from practising tyranny over those whose interests are subordinate to them.

Tenant.

The second class of interests mentioned above are Tenant's Interests. There are always some tenants whose rights are stronger than those of the rest. These are called occupancy tenants in Bengal and the United Provinces. In these two Provinces there was a general rule that where any tenant has continuously held the same land for 12 years he could not be arbitrarily evicted by the landholder nor could the rent be enhanced at will.

The tenants who are not occupancy tenants are called tenants-at-will. The Tenancy Acts of various Provinces extend to them a certain kind of protection. Harsh dealings in realising arrears of rent, payments of rent except by instalments after each harvest etc. have been dealt with in them.

(G) COLLECTION OF LAND REVENUE.

The collection of land revenue is entrusted to a very high class of officials, whose importance may be recognised by the very name they bear. They are designated "Collectors" and though they are Magistrates also, their duties in connection with collection of land revenue come first.

Two Instalments.

The land revenue is generally collected in two instalments after each harvest. The dates are usually so fixed that the revenue payers will have time to realise their produce or rent before they are called upon to pay the land revenue, and the tenants will have time to market their produce in order to pay the dues against them in cash.

Default in payment.

It is quite possible that in spite of these conveniences cases of default in payments

may occur. The defaulter in the beginning is served with a Writ of Demand. It usually brings about the payment but if this fails more serious steps are taken and any or all of the following measures may be tried against him.

1. Attachment of moveable property and sale thereof.
2. Transfer of the share of the defaulter to a solvent co-sharer or to an officer of the Government for a limited period.
3. Attachment of the immoveable property which may or may not be the subject of the default and sale thereof.
4. Arrest and detention of the defaulter.
5. Annulling of the settlement with the defaulter.

These measures are seldom required to be enforced but still they are there. They are applicable to tracts where temporary

settlement prevails. In the case of districts settled permanently the procedure is severer. There if the whole or any part of an instalment or revenue remains unpaid at sunset on the day fixed for payment, the estate concerned immediately becomes liable to sale.

Suspension.

There is a further point which should be considered. There may be cases of real inability to pay on account of loss of crops. How are the Collectors then to proceed? They suspend demand for the land revenue when the instalment falls due—usually for six months. This allows them time to watch the result of the next harvest. If the amount cannot even then be obtained, the sanction of higher authorities is secured for further suspension.

Remission.

If however the country is taken up by a wide-spread famine and the succeeding

harvests are too poor to allow recovery of the suspended revenue, remission of the demand takes place and the Government gives up its claims for the land revenue absolutely or partially according to the needs of times.

The Land Revenue Administration.

From the description given above one might be tempted to infer at once that the business connected with the assessment and collection of Land Revenue is an easy one. But that would be a mistake. No department of administration requires more watchfulness and greater supervision than that of Land Revenue. It is only when the supervision is constant and careful that the expectations of the Government can be fulfilled. If not, all records and the trouble taken in preparing them and making assessments would be so much labour lost. The Government has to keep itself informed of any and everything

that takes place to affect the Land Revenue and this can be done only with the help of a complicated and efficient machinery of administration which we shall see in brief detailed below.

The whole of British India is under the Governor-General-in-Council (who) is responsible to the Secretary of State for India in England. In India he is supreme and has in his subordination the various provinces, each of which is under a Governor-in-Council. (The Land Revenue is now a provincial subject.)

In every Province there is a Chief Controlling Authority in Land Revenue matters. In more important Provinces this is what is known as the Board of Revenue while in others this is a Finance Commissioner or other dignitary. Moreover there is a department of Land Records and Agriculture in almost every province.

The Provinces are divided into Districts and except Madras, a number of these districts — three, four or more, are aggregated into divisions and each division is placed under a Commissioner. He is the medium of communication between the District Officer and the Government. He is the appellate authority in Land Revenue matters from orders of the District Officer and his first grade Assistants he has to do inspections and keep general control over his division.

The District is the real administrative unit and the officer in charge of it in his Land Revenue capacity is known as the Collector. The Collector has the help of Assistant and Deputy Collectors.

Every District is sub divided into a number of convenient local Revenue charges. The officer in charge of these is known as Tahsildar and he usually has a Naib or Assistant to help him. The Tahsildar has under him

- (1) A staff of Accountants and treasury clerks for the purpose of receiving local Land Revenue and sending it on with proper accounts to the District Treasury.
- (2) He has a staff called Kanungos.

The Kanungos are, so to say, Revenue Inspectors. One of them has charge of the returns and statements to be prepared and remains at the Tahsil head-quarters. He has to issue stationery also. The others have to be almost always on tour and see that the village accounts and returns are properly kept up and village inspections of crops are duly made by the Patwaris. Local and repeated inspection is the main stay of Land Revenue Administration.

Each village has an official watchman, headman and an accountant. The first is known as Chowkidar, the second as the Patel or

Lambardar and the last as Karnam, Kulkarni or Patwari. The Chowkidar is a helping hand in almost all matters of routine. The Patel or Lambardar acts as representative of the village with the officials and helps in the collection of the revenue but the last named has to keep the village accounts.

The Patwari is really the backbone of the whole Land Revenue Administration and on his efficiency depends the efficiency of the whole department.

He keeps the accounts of the revenue payments and outstanding balances, he has the official charge of the village maps, field registers and other records and rights, he makes corrections and keeps records upto date and in correspondence with the actual facts for the time being ; he prepares periodical returns and gives various kinds of statistics from which a knowledge of the state of affairs

in the village is obtained ; he makes certain inspections and takes note of all changes that occur ; he reports any unusual occurrence and keeps a diary which he fills up regularly noting in it practically everything that goes on in his circle and in any way concerns the Land Revenue business. *

PART II.
Agriculture.
INTRODUCTION.

AGRICULTURE may be said to be the oldest science on earth but agriculture in India is yet in a primitive state. The farmer has a superficial knowledge of certain natural laws and he is ignorant of scientific methods.

The subject of agriculture is divisible into three parts:—

1. The Plant Life,
2. The conditions which are favourable to its growth, and
3. The action of the cultivator in bringing about those conditions.

The Plant Life.

When an ordinary plant develops, there are three distinct stages through which it passes, namely:—

1. Germination

2. Growth, and
3. Ripening.

Germination.

Take a seed and see what it is full of. It contains the matter necessary for Germination. Put it into a suitable temperature and let it have a certain amount of moisture and it would put forth a shoot or shoots which is the beginning of roots.

Growth.

The second stage is Growth of the plant, and in this it increases in size both in the surface growth and in the roots. The food contained in the seed for the plant is exhausted very soon and the plant requires more and more food as it grows, which is supplied by air, water, and soil. The matter taken up by the plant may be called the Plant Food. The plant takes one kind of food through its leaves and green stalks and other kind of food

through its roots. The substance it takes in through the leaves is carbonic acid gas and it is only under the influence of sunlight that the plant can consume it well, and so it requires a fair supply of sunlight also. The substances taken up by the roots are first water and secondly constituents of the soil dissolved in water. The soil is composed of small particles of matter and when wet these particles gradually decompose and make certain minerals available for the plant.

Ripening.

The plant thus fed by air, sunshine, water and soil grows larger and larger till it develops into the stage called Ripening. It is the final period in the development. The plant flowers and the flowers develop into seeds or fruits ; the leaves at the same time tend to lose their green colour and turn yellow or brown.

Favourable Conditions.

The foremost stands Weather.

Weather.

The great source of heat is the sun and it takes up every summer water vapour from the surface of the sea. This water vapour is blown towards India by winds called the monsoon.

Monsoon.

The monsoon sets in about the end of June and from then till nearly the end of September the air is full of moisture and gives rain. The weather clears up towards the end of September and the rainy season comes to an end. The temperature then falls rapidly until January and light rain is often but not always received sometime between December and February. In March the weather begins to warm again and dry weather lasts till the beginning of rains next year.

Loam.

Now there are very fine grades of soil between clay and sand and those are found in the glasses used between those containing sand and clay. These intermediate varieties are called Loams.

The degree of fertility in these kinds of soil depends on the fineness of the particles composing it and so clay * is always fertile, loam is of intermediate kind and sand is poor, while gravel is barren.

Of course, it is not easy to get soils that can strictly be classified as pure sand, pure loam or pure clay, &c., but when one of the four substances named is more plentiful than the rest, the soil is called by that name. When one says this is sand it simply means that sand is to be found in the composition of that soil more abundantly than other matters

* Very fine clay clogs water from passing through it and so is not very good to plant life unless mixed with a little loam or sand.

Physical Properties.

Attention is now invited to those properties of soils called "Physical Properties", by which are meant those properties of soil which afford supply of food to plants.

Dissolution in Water.

The first such property of soil is the Dissolution of itself in water. The roots of the plant pass through the air spaces between particles of soil and the tiny hairs which are seen growing out of them come into contact with these particles and take up water and such food as has become dissolved in that water from those particles.

Capillary Action.

The second property which is equally important is the Capillary Action of the soil. It is the power of the soil to cause moisture to spread through its particles in all directions

even upwards. Water sinks downward by its own weight but it will also spread upwards by capillary attraction. The plant can therefore draw moisture not only from the soil in which it is but from below also and this is how sub-soil influences cultivation. If the surface soil is dry and the sub-soil is wet, water will constantly pass upwards from the wet layer to the dry. In ordinary soils, the surface is usually drier than the sub-soil through practically the whole cold weather and also through a part of the rainy season on account of evaporation. If then the surface soil could not obtain water from below, it would soon become so dry that the growth of crops would become impossible.

Chemical Composition.

It is now necessary to consider the Chemical Composition of the soils. Without a knowledge of this one cannot know what substances become available to the plant from

the particles of the soil available. Soils are formed from rocks and different kinds of rocks are composed of different materials and in different proportions. Some of the constituents are useful to the plant life and well nigh common to all sorts of rocks. They are Silica, Alumina, Iron, Potash, Phosphoric Acid, Soda and Lime. The coarse particles of soil (called sand) are mainly composed of Silica. The smaller ones (called clay) contain compounds of Silica with Alumina, Iron, Potash, Soda and other substances. Lime is found in almost all soils and it is of great importance in cultivation as its presence is necessary for the health of that kind of bacteria which are favourable to plant life.

Cultivator's Action.

It has been learnt that the plant requires water, air, sunshine and soil for its nourishment, but the seed will not grow unless

conditions suitable for Germination of Plants are brought about by the cultivator. The first thing required to be done is to prepare a proper seed-bed and this is done by a process commonly known as Tillage. Tillage is possible only with the help of implements. The cultivator in India ordinarily uses four implements ; the plough, the clod crusher, the spade and the hoe. Their vernacular names are Hal, Pata, Phaora, and Khurpa.

Tillage.

When a plough is drawn in a field through the ground, its point cuts a furrow, and the soil at the sides is pressed into the space left by the last furrow. The ground must neither be too wet nor too dry; if it is wet and muddy, it is useless to plough, as soil does not get broken up ; if it is hard and dry, the plough cannot be worked properly by bullocks and merely makes a scratch on the surface of the

soil When the right time has been found out, the whole field is tilled uniformly. The plough is the most important of the farm implements. The Clod Crusher is merely a flat log of wood which is drawn over the field by bullocks, the driver standing on it. It breaks many of the clods left by the plough and also smooths off the ridges, so that a level surface is obtained. The spade is used mostly for odd jobs, but it is very useful for digging land intended for valuable crops which require deep soil Hoe is used for a great variety of purposes, its principal use is to remove the weeds and loosen the surface soil round young plants

Having known the implements of Tillage it should now be seen how the farmer uses them, *i. e.* how the field is treated with them for each of the two crops-Kharif and Rabi.

Take the treatment of the Kharif crop

first At the end of May or early in June, after a shower or two have fallen, the field is ploughed roughly, this breaks up the surface and admits air into the soil and the roughness of the ploughed surface prevents rain, when it comes, from flowing away and nearly all of it sinks into the ground The soil gets wet sooner than would otherwise be the case When the rainy season is well established the ploughing is resumed as soon as the surface has dried sufficiently, usually two more ploughings are given but the object of the farmer is to have the soil thoroughly stirred and pulverized, and, for this he does his level best He sometimes cross ploughs also, that is, ploughs first along and then across the field

The Tillage for Rabi begins in August From August to September the land will be ploughed as often as can be managed having

regard to the weather. By about the middle of October the field would be thoroughly pulverized and in excellent condition for sowing.

It is clear now that the art of Tillage consists in preparing the land in such a way as to present the most suitable condition for the seed to germinate.

Sowing.

When the seed bed has been prepared by Tillage the next thing the cultivator has got to do is to put the seed into the ground. It is a difficult task no doubt, and much experience is necessary to so put the seed as to allow each plant, when it grows, a certain amount of space from which it can draw the nourishment it requires. If the plants are too crowded, they will be insufficiently fed, while if they are too far apart space will be wasted, and the outturn of the field as a

whole in either case be reduced. The cultivator generally drops the seed by hand or he uses a bamboo tube which he attaches to a plough in such a way as to drop the seed in the furrow.

When the seed has been sown, the Pata is run over the field in some cases. Whether it is to be used or not, depends on the seed bed; if it is dry, the Pata will be used to enable moisture to rise from below, and if it is rather wet, the surface of the land should be left to dry as quickly as possible.

Weeding.

When the seed comes up the young plant will not be alone in the field; the seeds of irreverable weeds, which are always in the soil, will have also germinated, and if these are allowed to grow, the land will be over-crowded, the next operation therefore is to remove the weeds before they injure the plants. This

is done by scraping the surface with the hoe. Besides uprooting the weeds, there is another advantage of scraping. The surface soil has probably packed under the influence of rain and it is loosened by the hoe. Loosening is an advantage, because the loss of water by evaporation goes on much more rapidly from a packed and smooth surface than when the surface is loose. Other occasional operations may be necessary but the main work is over when the cultivator has thoroughly broken up the soil before sowing, has removed the weeds and has loosened the surface soil to the extent that may be necessary to keep the soil thoroughly moist.

Helping Nature.

It should be remembered that it has all along been assumed that nature supplied the necessary quantities of plant requisites but it may or may not; the rainfall might be

defective or the supply of plant food in the soil may not be sufficient. The farmer in that case takes to one or more of the following measures according to his needs :—

1. Irrigation.
2. Manuring.
3. Leaving the field fallow.
4. Rotation of crops and
5. Mixture of crops.

Irrigation.

Irrigation is the art of supplying the soil with moisture by artificial means. It is necessary in order to make the best use of the land in Rabi season and it may be necessary to tide over dry periods in the Kharif. When one thinks of this important subject, two questions naturally present themselves, namely, where to get the water from and how it can best be used.

The sources available are three :—

1. Canals bringing water from great rivers.
2. Streams, Jheels, tanks, and
3. Wells.

The application of water to the land requires experience and judgment and also a certain amount of luck. No rule can be given for judging when a field requires water. The temptation is always to withhold irrigation in the hope of rain. If it does not come the growth of the crop is injured ; but on the other hand, if the rain comes just after irrigation, some of the land may get an excessive supply of water and almost equal injury might result.

The best way is to give occasional light irrigation in such a way as to enable each part of the field to get a fair share of water. This

is usually effected by dividing the field into compartments or Kiaries as soon as the seed has been sown. The water is allowed to run into each Kiari in turn till it is sufficiently moist.

So it is understood that the farmer takes to irrigation when the sources of natural supply of water are defective. Now it remains to be described what he does when the mineral food in the soil is not sufficient for the plant. He may take to manuring.

Manuring.

All crops take plant food from the soil, so that in course of time the mineral food contained in the soil decreases in quantity, and it becomes necessary to restore to the land those things which would readily yield food for the plant. These things are called Manures. They may be excrement and urine of cattle and human beings, dead leaves and household refuse generally.

As regards human excrement, very little need be said; it is a valuable manure and where caste rules permit, the cultivator uses it to his advantage. Another and more common source of supply of manure is the excrement of cattle. The value of dung as manure is well known to cultivators. But they will use it as fuel and when provision has been made for it, they generally set aside the balance for manure. Now it is this setting aside that requires attention. A good cultivator keeps his dung pit very carefully. He keeps it out of the reach of rains by protecting it with some sort of covering, and he prevents surface water from flowing into it by having low walls round it

Cattle dung is very rich in nitrates which form very good plant food, and the rain water will wash them out if the pit is not protected against its action. Moreover dung pit is a

store-house of bacteria useful to crops and water will affect them too if allowed to flow in and out of the dung heap.

Besides the excreta and urine of human beings and cattle there are other sources for getting manure and they are the refuse of the house, dead leaves and vegetable matter. They are pitted along with the dung and undergo putrifaction with the rest. The mixture is then spread over the field which is then ploughed so as to mix the manure with the soil before the seed is sown.

So much for the manure in general. But after a few crops are raised, it is quite possible that the land may be too poor to afford supply of food material, in spite of ordinary manuring. In such cases extra and special manurings have got to be given. These may contain saltpetre, cakes of oilseeds and other things in them.

Sometimes the same kind of crop is raised again and again on the same ground. The outturn of each successive crop will certainly be poorer than the previous one unless the exhaustion caused by the previous crop is made good by application of manure of that particular kind which will afford abundant supply of those things which have been consumed.

A description is now given of three other methods of rejuvenation of the supply of plant food in the soil.

These three kinds are —

- 1 Leaving the Field Fallow
- 2 Introducing Rotation of crops, and
- 3 Mixture of crops

Fallow

Fields, like every thing else, want rest in order to yield the maximum they are capable

of and so most fields get periods of rest from time to time These periods of rest give time for fresh supplies of mineral plant food to become available for the crops , so that the land is sometimes deliberately allowed to lie Fallow, i e it is left uncultivated for one season The weather and sun's rays act upon the soil, and certain portion of the plant food that has been consumed is restored

Rotation of Crops

When the same kind of crops are raised on the same land again and again the same kind of plant food is consumed every time Exhaustion takes place thereby and deterioration sets in To arrest it a certain order of cropping is followed and this is known as Rotation of Crops Each crop is so sown that it would benefit the crop that will be raised next For example, where rice is grown in Kharif it is useful to grow gram or peas in the

Rabi. The pulse will benefit the succeeding rice and thus deterioration will be arrested.

Mixture of Crops.

Mixing of crops is useful in more ways than one. Its main use is to draw supplies of food from different depths of soils, for example:— If Jowar and Arhar are mixed the roots of Arhar will go deeper than those of Jowar and both will thrive without interfering with each other. Its other use is to make plant food available for one crop from the action of the roots of the other crop; for example, if Gram and Peas are mixed with Barley or Wheat, the supply of nitrates in the soil is increased.

Still another advantage of mixture is to provide a sort of insurance against vicissitudes of weather, for example:— If Rice and Kodo are sown together, the Rice will flourish if the

rains are plentiful and the Kodo will flourish if they are scanty. In either case the cultivator will have the prospect of getting something

After all these discriminations are made, the proper kind of seed is sown, and the plant grows and the cultivator gives water where and when necessary or does other minor operations and then his business is to be watchful against his enemies

Cultivator's Enemies

The number of Enemies of the Cultivator is so large that it can safely be said that in no profession do they abound in such large numbers, Men, Animals Birds, Insects, Fungi and untimely and abnormal actions of nature are the names of only a few of them

Man is the foremost enemy of an agriculturist when he damages his produce or commits mischief to his field Then there are

Cattle which are apt in their hunt for food to graze in the growing crops Monkeys should not be forgotten, they really do a great deal of damage to fields Of wild animals Pigs are probably the worst They do much harm by rooting and digging among the crops Deer, jackals, porcupines, rats, squirrels, &c , cause considerable loss to cultivators and it may be said that there is hardly an animal that has not to be guarded against Then there are Birds, but it is important to know that all birds seen in the fields are not enemies Those that live exclusively on seeds or fruits are enemies as a rule, but there are others that live on injurious insects and these birds are friends Then there are Insects of various kinds These are very busy in defeating the attempts of cultivators and though some are picked up by birds, they do great harm to the crops when they increase in abnormal numbers

Fungus is a group of very small living beings which cannot draw their food from the air and soil but require it ready made. They live inside plants and feed on the materials which the plants have prepared for their own consumption; the result is that the plants can not fill their seeds with food materials and the outturn of the crop is greatly reduced.

Lastly, hails, storms, excessive cold and heat, defective rain and floods, frosts, &c., are the actions of nature which baffle the cultivator and defeat him of the fruits of his labour.

His Remedies.

Now what are the cultivator's remedies against these? He is naturally very much handicapped here. Some situations are purely helpless, *e. g.* in hail, storm, excessive heat and cold and floods, the cultivator simply sits by and watches the harm that is being

done. No remedy exists against this. When the situation is not so bad, the cultivator helps himself and takes to watching as a preventive against attacks of men and animals. He puts a fencing round his holding and thus saves his produce from damage caused by larger animals. Injurious birds are shot by some and some scare them away by various devices. There is at present little remedy against insects and the attacks of Fungi.

Harvesting.

Guarded from the enemies and favoured by the weather, the cultivator eagerly looks forward to the ripening of his crops in due course of their growth and as soon as a crop is ripe it has got to be harvested, since a ripe crop standing in the field very soon deteriorates. There are two main methods of harvesting: where the ears of grain are comparatively few and conspicuous, it is useful

to cut them off and get out the grain separate from the rest of the plants The ears are placed on a bare piece of ground and cattle driven round and round over them, till the feet of the cattle gradually knock the grain out of the ear, and by this process all the grain is separated As soon as this point is reached, the grain is winnowed, this is done by lifting up the stuff that has been trodden and letting it fall in a current of wind The grain is heavy and falls straight on the ground, whilst the fragments of the heads are lighter and are blown little distance off The grain thus accumulates in one heap and the chaff in another In the case of maize the cobs are beaten with sticks till the grain falls off

With most of the crops that produce numbers of heads of grain, the whole crop, not the heads only is put on the threshing

floor and trodden by cattle and the grain is then winnowed out by the method above described. When the produce has been harvested, it is ready for consuming, storing or marketing.

Principal Crops.

Before concluding, a description of the principal crops is necessary to be given. An easy way to deal with them is to follow the order in which they are sown. The Kharif crops are sown first. They can be divided into two classes, namely, food-crops, for example, Rice, Millets, Moong, Urd &c. and non-food crops, for example, Cotton, San, &c.

The Rabi crops are sown in cold weather and are similarly divisible into the same two classes. Wheat, Barley, Oats, Gram, Peas, Masur, Potatoes, &c. form the food-crops and Sarson, Alsi, Opium, Tobacco, &c. form the non-food corps.

There are some other crops which come neither under one nor the other and they are sown at special seasons. Sugar cane and Indigo are the most important illustrations of them.*

* The greatest factor in determining the success of agriculture is the Famine and this subject therefore is taken up in the next note.

PART III.

Famine.

INTRODUCTION.

Famine is of such frequent occurrence in India that a man can hardly be believed to exist who has not seen its effects in some way or the other. A lookeron may ordinarily gain some idea of the terrible suffering that is caused to the people in general in a year of famine but without a thorough and regular study of its causes, results, and efforts to combat them, none can possibly understand the situation and be ready to meet the problem of famine relief when it arises.

Definition.

In 1867 Famine was defined as "Suffering due to want of food on the part of a large

portion of the population" but since then the aspect of famine has changed to some extent. India is a big country, and produces enough to meet its needs. Railways have been constructed to bring food to where it is wanted from where it can be spared. In the circumstances if means are provided to earn enough to purchase food, the necessity of providing relief in the way in which it was customary to provide it in old days, will cease to exist. History gives no example of a drought extending over the whole of India and meteorologists declare such an event to be impossible. Such being the case, if employment is secured to the people, it must decrease the sufferings and mortality caused by local deficiency of foodstuffs. When the rains fail, agricultural industry is suspended, and this not only causes a heavy deficit in the supply of food material, but also brings about

want of employment amongst huge masses of agriculturists and field labourers, and there is no other industry which can support them, and thus begin the horrors due to want of food material and employment which are seen in times of famine.

The Causes of Famine.

They may be classified under two headings

- (1) Physical, and
- (2) Economic.

Physical causes are want or excess of rain, hail storms, crop diseases, locusts, &c.,

Economic causes are lack of resisting power in the Raiyat, their chronic poverty, and indebtedness, their improvident habits, and their dependence in large numbers on agriculture alone for their livelihood.

Physical Causes.

Of the physical causes, failure of the rains is the most important. The rainfall in

India is periodic but by no means regular. There are two rain bearing currents known as the South-West Monsoon and the North-East Monsoon. The South-West Monsoon commonly called "the monsoon", is the more important of the two and the agricultural classes in India depend for their means of livelihood upon its being timely and regular. For a month or two before the rains, the land is at rest over the greater part of India. The heat is intense, the soil is baked, ploughing is impossible and the people sit in their villages literally gasping for the rains.

The monsoon bursts in June and dies away at the end of September or beginning of October.

After the first heavy shower, ploughing begins, and the autumn crop is sown. It occupies ground for from two to four months, during which period the distribution of rainfall

is more important than its amount. A long break in the rains would cause serious loss, excessive rains would produce floods, and continuous rains would not allow the agriculturists to work in their fields. Millions of labourers including agriculturists and small land holders find employment in raising this crop, and when the rains fail, these millions are thrown out of work.

In October or November the spring crop is sown. The so called North-East Monsoon or winter rains begin on the East Coast of the Deccan in November or December and the rains fall in the north sometime between December and February. These rains are advantageous but not as indispensable as the rains brought about by the South-West monsoon. Harvesting begins in March and April and again employs millions of men, women and children.

Thus failure of the rains involves failure of crops, thereby reducing the supply of food and at the same time decreasing the demand for labour ; but it is to be remembered that every failure of rain does not cause famine. The spring crop may be good although the autumn crop has failed, and there are various degrees of crop failures with varying effects upon the labourers. It is only when a wide spread failure of both the crops takes place that the demand for labour ceases and distress is caused which amounts to famine.

Economic Causes.

Of the other kind of causes of famine, that is economic causes, the chronic poverty of the agriculturist takes the lead. He has no capital and consequently no credit. The little local credit he can command is unorganised and it shrinks when harvests fail.

Whatever be the causes, physical or

economic when famine sets in, it becomes at once apparent to the people, that trouble is in store for them. Prices of food-grains rise and there is feverish activity in the grain-trade. A significant contraction of private charity takes place, which sends habitual village paupers to cities. Petty crime increases and people take to wandering. They leave their homes and migrate in search of food or pasturage but they often do not know where they will find it. Society is entirely disorganised and every kind of horror pervades the land. The normal course of economical existence is so suddenly revolutionised that people die in large numbers. Moreover, Cholera and Malaria almost invariably appear in the hot and the wet seasons in famine years and sweep away thousands. The result is that distress becomes extremely horrible and whole villages are depopulated.

Government loses the land revenue and epidemics prevail among people suffering from want of sustenance.

The Problem of Famine.

The Problem of combating Famine in India therefore consists of two parts namely:-

1. Provision for increasing the productive capacity of the people in normal years.
2. Provision of means whereby to afford employment and food to the famine stricken when famine has set in

Productive capacity of the People.

The first part of the problem can again be divided into three parts namely :—

- (a) Freeing the agricultural industry from its dependence upon the changes of the weather as far as possible (by opening irrigation works).
- (b) Diminishing the number of people

dependent upon agriculture, (by encouraging manufacturing industries) and

(c) providing a good system of credit for the agriculturists, (co-operative credit societies).

Irrigation Works.

The Productive Capacity of the People can be raised and their dependence upon the changes of the weather can be decreased by opening irrigation works. It must be admitted at once that the whole area of the country cannot be protected from famine by irrigation alone but certainly the area liable to famine will be restricted and the intensity of the famine will be relatively mitigated where means of irrigation are provided.

Truly speaking, irrigation works where they can be brought into existence are an insurance against famine.

Manufacturing Industries

As regards the second portion of the first part of the problem under consideration it may be said that protection can to some degree be afforded by the Development of Manufacturing Industries. They serve the agricultural classes in two ways. They create a market for the produce of the fields and they will give employment to a certain number of people and thus diminish the number of those who depend for their livelihood on agriculture only. They will encourage migration also from congested areas.

Co-operative Credit Societies

Still another way of affording protection is the improvement of Rural Credit by the opening of Co-operative Credit Societies. These will in the course of time free the cultivator from depending on the moneylender for maintenance year in and year out, and

furnish him with capital at a reasonable rate of interest.

In this way the people can be fortified against famine and the effect of it as has been said will be not to remove famine altogether but to mitigate its evils as far as is possible in the circumstances.

Famine Policy.

History affords very little information about the relief measures that were taken in India in early times, but a safe conclusion can be drawn from existing records that famines have not been infrequent. If a conjecture is to be hazarded it may be said that the means of communication in ancient times were few and exact information therefore regarding famine was difficult to obtain. Moreover, no adequate estimate could have been possible of the area over which famine extended. Famine in one

place and plenty of produce a few hundred miles away but beyond the reach of the famine-stricken, could not have been an impossibility. Now and then, Kings and Emperors may have made efforts to grant relief by encouraging storing of grains and by opening of kitchens. But measures of this sort could hardly have afforded relief, where thousands of persons were concerned. Relief on an organised scale is a modern growth and its principles have been established as a result of three famine commissions.

Three Commissions.

The first Commission sat in 1878 under the presidency of Sir Richard Strachey. They started their labours on the principle that Government should spare no efforts to prevent starvation and came to the conclusion that relief should be so administered as not to check the growth of thrift and self-reliance

among the people and laid down the following principles —

1 Employment should be given on relief works to the able bodied at a wage sufficient for support on the condition of performing a suitable task

2 Gratuitous relief should be given in villages or in poor houses to those who after enquiry into their circumstances were found to be unable to work

In order to regulate relief, constant inspection of the people in their villages was prescribed As regards food supply, non-interference with trade was recommended except in the very rare cases when the trade might be unequal to the demand on it Finally it was advised that the land classes should be assisted by loans and by general suspension of revenue in proportion to the general crop failure, it being a condition that appropriate

relief should be given by the land-owners to their tenants and holders of subordinate rights in the land.

These recommendations were embodied in a provisional famine code and from this provincial codes were drawn up. These codes were tested by the famine of 1896-97.

The incidents of this famine were exhaustively analysed by the second famine commission which sat in 1898 and was presided over by Sir James Lyall. He came to the conclusion that the success actually attained in the relief of distress and the saving of human life was far greater than any that has yet been recorded in famines and at a fairly moderate cost. The commission made important recommendations for the future treatment of famines though in regard to the broad principles of relief administration they adhered to the recommendations of the Commission of 1876.

They suggested some changes in detail, including a more liberal wage and an extension of gratuitous relief. They formulated rules for relief of weavers in their own trade as they would not join relief works, for fear of losing the delicacy of their fingers; for the relief of aborigines and hill tribes who were very reluctant to accept relief on ordinary terms: and for the management of the charitable relief fund. They laid great stress upon the necessity for liberal remissions of land revenue, and they recommended that relief work on the whole should be made more attractive.

Before these recommendations had been fully considered another great famine occurred in 1899-1900 and a commission was appointed in 1901 presided over by Sir Antony (afterwards Lord) Macdonell. It recommended a policy of prudent boldness, starting from a

large and extensive plan of relief and secured by liberal preparation, constant vigilance and full enlistment of non-official help. The wage scale was revised, the minimum wages were abolished in the case of able-bodied, payments being made proportionate to the task performed ; and provision was made for the exclusion from relief works of those who were in a position to maintain themselves. It will thus be seen that great labours have been bestowed on establishing the main principles of relief and though opinions have at all times differed in some respects and will continue to do so, the main principles have gradually settled down.

Responsibility of Government.

The responsibility of Government to afford relief should be fully recognised so much so that it should be expected that no deaths would be allowed to occur which it is possible to avoid.

by exertions or arrangements on the part of Government or its officials and this is possible only when Government is ever wide awake and keeps itself informed of the conditions of the people and the crops.

If however a famine takes place, the Government should appoint a Famine Commissioner and manage to put heart in the people. The method is to proceed from the beginning on a comprehensive plan and publish it. Liberal preparations should be made in advance of pressure but actual opening of relief works should begin only, when famine becomes established. The sympathy of non-officials should be enlisted from the very beginning and meetings should be organised to save people from falling into despair and consequently into resignation. Finally an efficient audit and account establishment should be created to avoid waste

which always follows delay.

So far it has been described in abstract how the principles of modern relief have been derived from experience.

Measures of Relief.

Now let us see what the Government does in order to keep itself ever wide awake and *meet the calamity if it pleases Providence to inflict one.*

Standing Preparations.

Standing preparations are made on a large scale in ordinary times. The Government is kept informed daily of meteorological conditions, weekly of crops and prices, and monthly of births and deaths. Programmes of suitable relief works are revised annually in every district. The country is mapped into relief circles of convenient sizes ; reserves of tools and plant are stocked and lists of persons suitable for establishment are annually drawn up. In short, every effort is made so to

manage matters in advance that relief can be mobilised at any moment.

Preliminary Enquiries.

When the rains fail, preliminary enquiries are started ; forecast of probable crop failure is made and a careful look-out is kept for the regular danger signals of approaching distress. The Government makes the necessary arrangements when the uneasiness is intensified and declares its general policy. Meetings are held, non-official gentlemen are encouraged to be active in helping the officials ; committees are appointed to stimulate and organise private charity ; village inspection begins and preliminary lists of helpless persons who may require gratuitous relief are made. Liberal advance of money for the repairs and constructions of wells and other works in the fields are made and detailed enquiries are held as to the degree of crop failure with a

view to revenue suspension, and poor houses are opened to accommodate paupers.

Test Works.

Test works are then started. The condition of those who seek employment on them is closely watched and a look-out is kept by village inspections on the conditions of those who stay in their villages. The situation is grasped by making the test works neither too lenient so as to cause unnecessary expenditure nor too strict so as to scare away people who actually want relief.

Relief Works.

When the test works or village inspections disclose real distress, relief works are opened. The village inspection is then increased, the lists of persons entitled to gratuitous relief are revised and distribution of gratuitous relief is begun. (Suffering people naturally flock to these relief works.)

The gathering of an intermediate crop

like sugarcane may reduce the number slightly but generally it continues to rise till the following March. Holi, reaping the Spring harvest, collection of Mahua or the mango crop may again draw away some labourers for a time but they mostly return by the end of April. In May distress reaches its maximum and Cholera generally breaks out. People die in thousands and the disease is spread over the country by deserters running away panic-stricken. The country is divided in advance into circles and small works are mapped out. On the first outbreak, the people on large relief works are split up into parties of about 500 each and marched off with staff and equipment to the circles in which their villages are. Here small works are ready for them. The wells have been disinfected beforehand and works can be commenced at once.

Closure for Relief Works

When the rains come the policy changes. Relief works generally close and the people are moved to smaller works still nearer to their own villages. Local gratuitous relief is extended. Efforts are made to restore ordinary agricultural conditions with the least delay possible and encouragement is given to cultivators to sow as large an area as possible. Advances are made for the purchase of plough, cattle and seed. In short, efforts are made to restore the cultivators to a degree of efficiency which they had before the famine began. The labourers return to their villages as soon as the demand for labour springs up. This brings about closure of relief works. Factory doles are given and large quantities of relief are distributed in anticipation of the gathering.

The gather.

This policy of Government is, as has been said above, not to encourage people to linger on unnecessarily on relief work and therefore it is strict.

The strictness however is softened and supplemented by private relief funds, out of which small comforts of food or clothing are provided to the aged, infirm, sick, children and others in need of them ; orphans are helped, the respectable are relieved in ways acceptable to them and a fresh start in life is given to those who have lost everything in the struggle.

Problem of Financing.

The establishment of relief works is a matter of huge expenditure, which Government has to meet at a time when income which it ordinarily receives under the head "Land Revenue" is greatly reduced. Therefore the problem of financing schemes of

relief is sometimes very puzzling. It is usually done in two ways, namely, by curtailment of other expenditure and by the creation of a famine insurance fund. Of these two means, the first cannot be discussed as it depends entirely upon the relative importance of the various items of expenditure in that particular year when famine comes

Famine Insurance Fund

But the latter, that is, Famine Insurance Fund, is a matter of history and Government has recognised that whatever means may be adopted to mitigate or obviate famine, its occurrence must be taken as inevitable. It is therefore necessary to reserve in prosperous times a substantial amount to be used in times of famine.*

* The key note of the success of measures necessary to strengthen the position of the agriculturists is the provision of capital. If this is done which it is very difficult to do, they may well be trusted to take care of themselves. In the next note therefore, the question of how capital can be provided to agriculturists is taken up

PART IV.

Co-operative Credit Societies.

Before any description of such Societies and their uses is attempted a short description of the economic conditions in India is necessary.

Economic Conditions.

It is a notorious fact that India is economically the least organised of the civilised countries. About 80 per cent of the population in India are ignorant agriculturists and most of them are hopelessly involved in debt ; and, what is worse, this indebtedness is growing every year and is to a large extent due to expenditure on marriage, funerals, and other ceremonies. This expenditure is economically unproductive.

Rural Money-Lender.

When an agriculturist wants money he naturally turns to the village Bania for a loan and the Bania charges a very high rate of interest on such loans. By some writers, therefore, the Bania is branded as a parasite on agricultural industry ; he is described as a man who makes a profit out of the miseries of his neighbours, using their distress and hunger as a means of extracting an unreasonably high payment for the services rendered by him.

Others have taken another view. They describe the Bania as the village Capitalist whose function is to finance agricultural industry. He lends wealth to the agriculturist for the production of more wealth i.e., he advances seed for sowing and he provides cash to buy oxen and agricultural implements.

Though some may apportion praise and others blame to the village Bania, the truth probably lies between the two extremes and it may safely be said that the Bania by virtue of his peculiar position is both of service and dis-service to the agriculturist. When one considers the part he plays in rural economy, one finds, on the one hand, that he lends money to people who have no credit and no security to offer and he maintains them in times of misfortune : but on the other hand, he takes advantage of the chronic indebtedness of the people and his own position to levy a grievous toll in the shape of cruel interest.

If his services are balanced against his dis-services it is plain that the existence of a money lender is a necessity in the village but it is a painful necessity. If a substitute be found to finance the agricultural industry at

a low rate of interest, the Bania can be dispensed with and the indebtedness of the peasantry brought within bounds. Such a substitute was found when the Co-operative Credit movement was introduced into India.

Extravagance of the Cultivators.

It should be mentioned at this stage that the cultivators generally are subject to a peculiar failing. They are a body of reckless people. When credit is facile, instead of trying to ameliorate their position and escaping from the situation they have created for themselves, they are apt to take to borrowing more and more. Experience has proved that an increase in the cultivators' power of borrowing is always followed by an increase of indebtedness ; they appear to borrow not in accordance with their needs, but according to their power of raising money. A loan on easy terms is therefore a thorough-

fare to lead them to ruin. So, as long as the cultivators are ignorant of the position, a strong check should be placed upon their power of borrowing and the first step towards reducing their capacity to borrow is to stop them from pledging their land as security. The value of land has been steadily rising and it is a form of security which the money lender is only too pleased to accept. The cultivators mortgage their land in the first instance to one man and after some time when in need of more money they mortgage it to another man for a larger sum. This enables them to redeem the previous mortgage and at the same time provides them with cash in hand to meet urgent demands. In this way the market price of land rises, the amount that can be raised by mortgage also rises and in course of time the debt becomes

so great that they feel it beyond their power to redeem the mortgaged land at all

Suggested Remedy.

How can this tendency towards undue indebtedness and consequent destruction of agriculturists be arrested? It is, no doubt, the product of ignorance. Therefore, education is the main and the best remedy but so long as the Indian cultivator remains in his present state of ignorance it is necessary that Government should put a limitation to the power of mortgaging land which is their practically only security and certainly the only security acceptable to a money-lender.

Necessity of Borrowing.

When it is understood how it is necessary to save cultivators from borrowing very easily, it is time to laydown that partly on account of the very nature of the agricultural industry but mainly on account of the present condition

of indebtedness, the agriculturist cannot exist without borrowing. So the solution of the problem of the agricultural indebtedness appears to lie in the inauguration of some system which will provide the peasant with every facility of borrowing at a low rate of interest and at the same time provide a safeguard against his imprudent tendency to borrowing in excess of his professional requirements. Both of these conditions are satisfied by the Co-operative Credit movement.

Co-operation.

Co-operation is a combination for an economic purpose. It owes its origin to poverty and to the need felt to secure some means of escape from the hardships and disadvantages which poverty entails. Individuals want what individually they cannot obtain. They therefore combine to obtain it.

Co-operative work is generally regarded as being of three kinds —

1. Distributive,
- 2 Productive, and
- 3 Credit

A Distributive Society purchases commodities wholesale and sells them in retail to its members. These societies are generally called Co-operative Stores

A productive Society is a group of people who unite their capital for the purpose of producing things

A Co-operative Credit Society is an association of persons who unite for the purpose of pooling their credit and thus securing loans easily and at a low rate of interest. It is only this form of society which is of our present interest and so its history is briefly traced here

Co operative Credit Movement

It began in Germany and its organisation is due to the exertions of the two men Schulza Deblizxeh and Raiffeisen. The former worked chiefly for artisans and tradesmen of the town and the latter for the peasants of the rural districts.

Schulza

Schulza was a country judge in his native town Deblizxeh and his official position gave him an insight into the economic condition of the small traders and artisans there. He began to think of evolving a scheme which would mitigate the hardships of his countrymen. To commence with, he started a provident fund and two societies for the wholesale purchase of raw materials. His next step was to start a credit society the capital for which was subscribed by well-to-do people but soon after he preached the gospel

of Co-operation and started credit societies which worked remarkably well. They were founded on thrift and self-help on the part of the people themselves.

Raiffeisen.

Raiffeisen was Burgomaster of a village in one of the poorest parts of Germany. The barren soil of the place supported ill the population which was entirely in the hands of the Jews, who were traders as well as money lenders. They compelled their creditors to sell all their field produce to them and purchase their requisites from them. The peasants were in debt to so great an extent that their huts, cattle and other belongings were all pledged. It was in this miserable district that Raiffeisen began his work. He gathered together a small amount of money and started a Co-operative Bakery which succeeded in supplying bread to the peasants

at half the market rate. Next he started a cattle purchase society and then his first village bank came into existence. At first progress, as is usual, was slow, but as the advantages of co-operation became known, the movement grew in strength

The Raiffeisen banks were simply village societies of agriculturists united in the common interest. At first a few of the better class people united and these by example and precept in course of time drew in others. The first steps were hard, but once fairly started, there was little difficulty, because the advantages of the system were soon manifest to all. The principle of restricted area was deemed essential and the bank was thus brought to the borrower's doors. Its administration was trusted to local men who could be induced to work gratuitously, these people had a first hand knowledge of the candidates

for membership and so could reject those who were unworthy to be trusted

Result in Europe

The result of this movement in Germany had been that the usurer had been ousted and the agriculturists set free to develop their farms. Other countries have also found Co operative Credit movement useful, for example, in Denmark and Italy, the results have been almost magical. Rates of interest from 20 to 30 p c have been brought down to 4 and 5 p c, usury has been banished from areas which had been its home, capital has been made available to poor artisans and agriculturists in sufficient quantities and on suitable terms, production and enterprise have been increased, and in every field the quality and yield of agricultural produce have been improved by the aid of machinery and fertilizers. Purchase and sale of goods have

been made profitable both to producers and consumers by the elimination of the middle men Lands which were threatened with extinction have become prosperous countries of the world inspite of the poverty of their soil

These are some of the results observed in the European countries which have adopted Co operation

Movement in India

Encouraged by the success which co operative credit banks had in Europe, the people of India began to think the movement would succeed if inaugurated here

Some years ago Sir William Wedderburn, then District Judge of Poona, submitted to the Bombay Government a scheme for an agricultural bank to be opened in the Poona District, which was well received by the Local

and the Central Governments in India but was rejected by the Secretary of State. A few years afterwards, the Madras Government took up the question and deputed Fredrick Nicholson to Europe to study the system of land and agricultural banks and report on their suitability or otherwise for adoption in the Madras Presidency. After three years' thorough enquiry, he reported that, conditions in Madras were not less favourable than in most European countries when the societies were first introduced in them. The Madras Government however did nothing in the matter but the report caught the eye of Lord Curzon who consulted all Local Governments on the point. In the meantime Dupernex, a Civilian in the United Provinces, started a few societies in the Allahabad District as an experiment and wrote a small book. Local Governments reported favourably and Duper-

nex's work attracted much attention

Lord Curzon saw in the proposals of Nicholson and Dupernex a solution for the woes of the agriculturists. He therefore called these two gentlemen to Calcutta and in due course of time a scheme of Co operative Credit Societies was started by the Government of India passing an Act in 1904 known as the Co operative Credit Societies Act.

Act X of 1904

This Act provided for the formation of credit organisations in accordance with the conditions prevailing in India. Its main provisions were —

1. That any ten persons living in the same village or town or belonging to the same class or caste might be registered as a Co-operative Society for the encouragement of thrift and self help among the members.

2 The main business of such a society was to raise funds by deposits from members and loans from non members, Government and other Co-operative societies and to distribute money thus obtained by way of loans to members or, with the special permission of the Registrar to other Co operative credit societies

3 The organisation and control of Co-operative credit societies were placed in the charge of a special Government official called the Registrar of Co operative Credit Societies

4 The accounts of every society were to be audited by the Registrar or by a member of his staff free of charge

5 The liability of a member of a society was to be unlimited in the case of a rural society

6 No dividends were to be paid by a rural society and the profits were to be carried

at the end of the year to the Reserve Fund, but when this fund has grown beyond certain limits fixed under the bye-laws, a bonus might be distributed to the members.

7. In the case of Urban Societies, no dividend was payable until a quarter of the profits in a year was carried to the Reserve Fund.

These societies were set on foot in India mainly in order to alleviate the distress of the indebted peasantry, but they resulted in much more than that ; they became the means of bringing into agricultural industry that capital of which it stands so much in need. Left to themselves, cultivators in India are more apt to spend their money in unproductive ways rather than in improving their farms, in celebrating marriages and holding funeral dinners than in buying implements of husbandry or increasing their means of irrigation.

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&c. Under the guidance of these societies, the tendency is for the peasant to use loans as capital for improving his land rather than for gratifying his personal wants and desires. (These societies have their educative influence also. The peasants learn to live and work in association and to trust in their own thrift and exertion.)

But as co-operation progressed in the country the business of the societies grew complex, defects were noticed in the Co-operative Credit Societies Act and these came to the notice of the Government.

Act No. II of 1912.

In the year 1912 the Government of India thought that the time had come for improving the administration of societies and also for increasing the scope of their activities and so introduced a bill for a new Act which contem-

plated the creation of societies not merely to borrow but also to purchase and provide, e.g., cattle insurance society, milk supply society, purchase and sale of implements society, &c. This is known as Co-operative Societies Act (No. II of 1912). Its main features were as follows —

- (a) It authorised the formation of societies for purposes other than credit, which was possible under the old Act only with the special permission of the Local Government. This extension of Co-operation to purposes other than credit marks an important stage in the development of the movement in India.
- (b) It defined in precise terms the object for which Co-operative Societies could be organised.
- (c) It removed the arbitrary division of

societies into rural and urban and substituted the more scientific division in accordance with the form of liability adopted.

- (d) It facilitated the growth of Central Agencies by insisting on its limited liability by means of a special clause about the registration of a society one of whose members is a registered society.
- (e) It empowered the Local Government to frame rules and alter bye-laws so as to put restrictions on the dividends to be declared by societies and allowed them the discretion to sanction distribution of profit in the case of unlimited liability societies to their members.
- (f) It allowed societies with the permission

of the Registrar to contribute from their net profits, after the Reserve Fund was provided for, amounts upto ten per cent of their remaining profit to any charitable purpose as defined in the Charitable Endowments Act. This kept the movement in touch with local life by permitting societies to lend assistance to local educational and charitable institutions.

(g) It prohibited the use of the word "Co-operative" as part of the title of any business Concern except registered societies.

Commission on Co-operation.

Under the new Act the business of the societies grew complex and therefore a Committee of eight members was appointed

under the Chairmanship of Sir Edward MacLagan in 1914 to examine whether the movement was progressing on sound lines and to make recommendations.

Report of Sir E. MacLagan.

The report was published in 1915 and in it the Committee has explained the theory and conditions necessary to make a credit society co-operative and they are summarised below :—

1. The theory underlying co-operation is that weak individuals are enabled to improve their material and moral status by combining among themselves and bringing into this combination a moral effort and a progressively developing realisation of moral obligation. The movement is essentially a moral one ; it is individualistic rather than socialistic. It provides as a substitute for material assets honesty and a sense of obligation and keeps

in view the moral matter rather than the material sanction.

2. In the formation of such a society the first essential is careful selection as members of honest men or at any rate of men who have given satisfactory guarantee of their intention to lead an honest life in future.

3. As regards the dealings of the society it should lend to its members only.

4. The loans must in no circumstances be for speculative purposes which so far from encouraging thrift and honesty have exactly the opposite effect. Loans should be given only for productive purposes or for necessaries which, as essential to daily life, can fairly be classed as productive.

5. When a loan has been given, it is essential that the Committee of the society and the other members should exercise a

vigilant watch that the money is expended on the purpose for which the loan was granted.

6. If the money is improperly applied it should at once be recalled.

7. It is advisable to add to the general supervision of the society the special supervision of individual members by taking personal security in the case of each loan. In the event of any default by the borrower an instant demand should be made on the sureties

8. In the more general matters of the society's business, there should, of course, be a Committee of management with a President and Secretary, all of whom, except those who perform purely clerical duties and have no voice in the management, should be members of the society and should give their services to it gratuitously

9 At the same time the ultimate authority should never be delegated to the office bearers, but should be retained in the hands of the members, who must continue to take a practical interest in the business of the society. Each member should have one vote and no more in the general meeting

10 All business should be transacted with the maximum publicity in the society. For example, there should be kept in some place open to the inspection of every member a list showing the loans and the amount of the loan still unpaid, and each member should be required to know generally how his account stands. General meetings should be frequently held at which the accounts and affairs of the society should be fully discussed and explained.

11 The express object of the society should be the development of thrift among

its members with the hope too, that this idea of thrift may spread in the neighbourhood. To effect this object loans must be given only when they are really necessary and desirable.

Further the development of thrift and a proprietary interest in the society should be aided by efforts to build up as soon as possible a strong reserve fund from profits. The society must also be encouraged to obtain as much as possible of its capital from the savings which its teachings and examples have brought among its members and their neighbours.

With all this must go the elementary business principles of honesty, punctuality, proper account, diligence and payment when due. To ensure all this there must be adequate control from within, increasing vigilance and supervision by the office-bearers and a continuous effort by members to learn

the principles of co operation, to meet frequently, watch others, to work hard and observe thrift and to repay loans punctually as they fall due

Conclusion

The broad principles which govern the working of Co operative Societies, have been laid down above. The following figures will indicate the progress that Co operative Societies in India have made —

Year	No of Societies	No of Members	Working Capital in Rs
1906 07	843	90 844	23,71,683
1916 17	23,036	10,45 425	12,22,92,180

India is a big Continent and these societies are as yet a mere drop in the ocean. Much has been done but a thousand times more still remains to be done.

LIST OF BOOKS CONSULTED

- 1 Baden-Powell Land Revenue in British India
- 2 Imperial Gazetteer of India Volume III
- 3 Imperial Gazetteer of India Volume IV
- 4 The Indian Year Book 1925
- 5 Moreland The Revenue Administration of the United Provinces
- 6 Anderson British Administration in India
- 7 Vaswani Primer of New Indian Administration
- 8 Land Revenue Policy of the Indian Government 1902
- 9 Ray Land Revenue Administration in India

10. Clouston : Lessons on Indian Agriculture.
11. Moreland : Agriculture in the United Provinces.
12. Mukerji : A hand book of Indian Agriculture.
13. Loveday : The History and Economics of Indian Famines.
14. Ray : Economic causes of Famine in India.
15. Nicholson : Report on Land and Agricultural Banks.
16. Duperness : Peoples' Banks for Northern India.
17. Venkatasubbaiya and Mehta : The Co-operative movement.
18. Subramania : Co-operative hand book.
19. Calvert : Law and Principles of Co-operation in India.
20. Morison : The Industrial Organisation in an Indian Province.

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